CLAIMS

1. An apparatus for extruding a ceramic molding, comprising a molding die, to form a ceramic molding, and a screw extruder containing an extrusion screw to knead and guide a ceramic material toward the molding die, wherein

said extrusion screw has a pressure screw part provided with a first lead of a single thread or more than one thread in the form of a spiral ridge, on an outer peripheral surface of a first shaft body and, on its front end, a diffusion screw part coaxial to the first shaft body and provided with a second lead of a single thread or more than one thread in the form of a spiral ridge on an outer peripheral surface of a second shaft body which rotates integrally with the first shaft body,

said diffusion screw part having a screw diameter larger than that of the pressure screw part.

2. An apparatus for extruding a ceramic molding as set forth in Claim 1, wherein said extrusion screw has, between the pressure screw part and the diffusion screw part, a spreading part provided with a spreading lead for spreading the ceramic material from an inner peripheral side toward an outer peripheral side.

3. An apparatus for extruding a ceramic molding as set forth in Claim 2, wherein said spreading part is provided with a spreading lead that is continuously connected to each thread of the second lead of the diffusion screw part and that is spirally formed on an outer peripheral surface of an intermediate shaft body provided between the first shaft body and the second shaft body whose diameter is larger than that of the first shaft body,

said intermediate shaft body having a diameter which is gradually increased from its first end connected to the first shaft body toward its second end connected to the second shaft body.

4. An apparatus for extruding a ceramic molding as set forth in Claim 2, wherein said spreading part is provided with the spreading lead of a substantially uniform shape in cross section in the axial direction, which is connected to an end of each thread of the second lead, on an outer peripheral surface of an intermediate shaft body provided between the first shaft body and the second shaft body whose diameter is larger than that of the first shaft body,

said intermediate shaft body having a diameter substantially equal to that of the first shaft body.

5. An apparatus for extruding a ceramic molding as set forth in Claim 2, wherein said extrusion screw is accommodated in a screw housing which has a hollow, small diameter tube of a substantially circular cross section receiving the pressure screw part, a hollow, large diameter tube of substantially circular cross section whose diameter is larger than that of the small diameter tube, receiving the diffusion screw part and the spreading part, and an spreading wall surface connecting an inner peripheral surface of the small diameter tube and an inner peripheral surface of the large diameter tube,

and wherein a lead end of the spreading lead of the spreading part, located on the spreading wall surface side, rotates while maintaining a predetermined distance from the spreading wall surface in the radial direction.

6. An apparatus for extruding a ceramic molding as set forth in Claim 5, said spreading wall surface being defined by a plane substantially orthogonal to the axial direction of the extrusion screw.

7. An apparatus for extruding a ceramic molding as set forth in Claim 2, wherein the length from a rear end of the spreading part to a front end of the diffusion screw part is 0.7-1.5 times as long as the screw diameter

of the diffusion screw part.

8. An apparatus for extruding a ceramic molding as set forth in Claim 2, wherein the length of the spreading part in the axial direction is 0.15-0.5 times as long as the screw diameter of the diffusion screw part.

9. An apparatus for extruding a ceramic molding as set forth in Claim 2, wherein an outer diameter of the extruded ceramic molding is 0.35-0.8 times as large as the screw diameter of the diffusion screw.

10. An apparatus for extruding a ceramic molding as set forth in Claim 2, wherein the screw diameter of the diffusion screw is greater than the screw diameter of the pressure screw part but smaller than 3.0 times the diameter thereof.

11. An apparatus for extruding a ceramic molding as set forth in Claim 2, wherein at least one of the diffusion screw part, the spreading part, and the pressure screw part of the extrusion screw is made of a piece separate from the remaining parts.

12. An apparatus for extruding a ceramic molding as set forth in Claim 1, said pressure screw part being provided on its front end side with a shaft bearing of a substantially circular cross section connected to the pressure screw part.

13. An apparatus for extruding a ceramic molding as set forth in Claim 1, said second lead being comprised of an even number of threads.

14. An apparatus for extruding a ceramic molding as set forth in Claim 1, said second shaft body of the diffusion screw part having, at least at its front end in the axial direction, a diameter reducing part whose diameter is reduced toward its front end.

15. An apparatus for extruding a ceramic molding as set forth in Claim 1, said ceramic molding having a honeycomb structure.

16. An apparatus for extruding a ceramic molding as set forth in Claim 1, wherein a tapered resistance pipe

whose inner diameter is reduced toward the molding die is provided between the screw extruder and the molding die.